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Fisheries Operations

Resource Management Division Newfoundland Region

Canada

A REVIEW OF THE FOREIGN LONGLINER FISHERY IN AREA 2+3KL FROM 1983 TO 1985

Observer Program

Newfoundland Region

SUMMARY

From 1983 to 1985, most longliner fishing activity occurred in unit areas 2He and 3Kc. The best daily catch rates occurred in the months of November and December in unit area 2He. The next best rates occurred in the early spring months of 1983 in unit area 3Kc. In 1983, foreign vessels fished in 3Kc only during the spring months because heavy ice conditions off the Labrador coast prevented fishing in 2He. In 1984 and 1985, foreign vessels fished only in area 2H because they were not licenced to fish for cod in areas 2J, 3K, and 3L.

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B- Total Catch of Cod by Month and by Year

C- Catches of Cod by Trip and by Position

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INTRODUCTION

The purpose of this report is to summarize the foreign longliner fishery in area 2+3KL during the period 1983 to 1985. This information may be useful to the Canadian longliner industry to determine the feaseability of fishing for cod in these areas.

The two countries that will be examined are Norway and the Faroe Islands. The majority of the information will be obtained from observer trip reports compiled onboard these foreign vessels over the past three years, as well as, from the FLASH information system in the Resource Management Division at the Department of Fisheries and Oceans.

SUMMARY OF FISHING ACTIVITY

Foreign longliner fishing activity in area 2+3KL has been relatively stable over the past three years. This is evident from the number of vessels licenced to fish for cod in these areas, as well as, the number of licenced vessels that actually fished in these areas.

The number of Faroese longliners that were licenced to fish for cod has ranged from 3 in 1984 to 5 in 1985. There were 4 vessels licenced in 1983. The number of Norwegian vessels licenced has ranged from 2 in both 1984 and 1985 to 3 in 1983. It is important to note that no foreign vessels were given an allocation for cod in areas 2J, 3K, and 3L in 1984 or 1985. While the number of foreign licences issued is a good indication of fishing activity, the number of licenced vessels that actually fished gives a clearer picture.

From 1983 to 1985, all Faroese longline that were licenced to fish for cod in area 2+3KL did so. However, only of 3 Norwegian vessels licenced in 1983 actually fished and only 1 of 2 cenced in 1984 did so. Both Norwegian vessels licenced in 1985 fished in area 2+3KL. The above figures are presented in Table 1.

TABLE 1: Number of Vessels Licenced to F sh for Cod in Areas 2+3KL from 1983 1985

		COUNTRY	
		FAROE ISLANDS	NORWAY
	1985	5 (5)	2 (2)
YEAR	1984	3 (3)	2 (1)
	1983	4 (4)	3 (2)

* ( ) number that actually fished

VESSEL SPECIFICATIONS

During the period 1983 to 1985, eleven different vessels prosecuted the Faroese longliner fishery. The gross tonnage of these vessels ranged from 87 to 818 metric tonnes with an average of 367.3mt. The net tonnage ranged from 45 to 394 metric tonnes with an average net tonnage of 161 .10 mt. The overall length of the vessels ranged from 23.65 to 49.47 meters with an average length of 40 meters. Finally, the number of crew members on the vessels ranged from 9 to 27.

The Norwegians, on the other hand, had 5 longliners in operation from 1983 to 1985. The gross tonnage of these vesseels ranged from 181 to 496 metric tonnes with an average of 294.60 mt. The net tonnage ranged from 69 to 210 mt. with an average net tonnage Of 122 mt. The overall length of the vessels ranged from 31.70 to 48.80 meters with an average length of 38.20 meters. Finally, the crew size of the Norwegian vesseels ranged from 7 to 21.

Vessel specifications on each individual longliner, both Faroese and Norwegian, are presented in Appendix A.

FISHING TIME FRAMES

In examining the foreign longliner fishery, the following were considered : (i) the time of the year which produced the best yields of fish, (ii) the area where the fish were caught and, (iii) the effect of weather conditions on the fishing strategy.

(i) MONTHLY CATCHES OF COD

Faroe Islands

In 1985, the total catch of cod by all Faroese longliners was 513.30 tonnes. Of this total, 250.2 tonnes (48%) were caught in the month of December while 161.7 tonnes (32%) were caught in November. Another 55.8 tonnes (11%) were caught in August while the final 45.6 tonnes (9%) were caught in July.

In 1984, the Faroese caught a total of 39[illegible]0 tonnes of cod. In the month of August, 189.2 tonnes (47%) were caugh[illegible] while December yielded the same percentage with a total catch of 18[illegible] tonnes. The remaining 22.3 tonnes (6%) were caught in September.

In 1983, the total catch for the Faroe[illegible] vessels was 2070.2 tonnes. The highest catch occurred in November with 555.3 tonnes (27%) being caught. The next highest catch was 23% of the total which occurred in April and May with catches of 481.4 and 47[illegible]5 tonnes respectively. Another 393.7 tonnes (19%) were caught in December while 115.20 tonnes (6%) were caught in October. The final 2%, 49.0 tonnes, was caught during the month of June.

In summary, the total catch of cod by Faroese vessels from 1983 to 1985 was 2982.40 tonnes. The months of October, November, and December yielded 1659.59 tonnes, or 56% of the total catch. Another 34% , 1010 tonnes, was caught from April to June while only 10%, 312.90 tonnes, was caught from July to September.

Norway

In 1985, the total catch of cod by Norwegian vessels was 227.60 tonnes. Of this total, 149.30 tonnes (66%) were caught in November while 78.30 tonnes (34%) were caught in December.

In 1984, the Norwegians caught a total of 246.30 tonnes. The best catch occurred in December with 121.0 tonnes (48%) being caught. Another 106.0 tonnes (43%) were caught in October while 11.5 tonnes (5%) were caught in September. The remaining 8.80 tonnes (4%) were caught in August.

In 1983, 1163.10 tonnes of cod were caught by the Norwegians. Of this total, 30% was caught in both March and April with 346.9 and 348 tonnes respectively. There were 135.10 tonnes (12%) caught in November and 128.20 tonnes (11%) caught in December. Another 101.10 tonnes (9%) were caught in October while 75.20 tonnes (6%) were caught in May. The final 28.7 tonnes (2%) were caught in September.

In summary, 1638.10 tonnes of cod were caught by the Norwegians from 1983 to 1985. The months of October, November, and December accounted for 50% of the total, 819.0 tonnes, and another 47%, 770.10 tonnes, was caught from March to May. The remaining 3%, 49.0 tonnes, was caught in August and September.

The monthly and yearly catches of cod for both Norway and the Faroe Islands are presented in Appendix B.

(ii) AREA OF CAPTURE

The positions at which the fish were caught have been obtained from the observer trip reports compiled onboard these vessels over the past three years. When the fish were caught, the observer estimated the total catch and then recorded the position of the vessel at the time of the catch. Due to the fact that not all fishing trips were under observation, the observers' estimates of total catches will be considerably lower than the actual total catches as recorded in the previous section.

From 1983 to 1985, the total observed catch of cod by the Faroese and Norwegians was 3324.0 tonnes. Of this total, 2203.5 tonnes (66%) was caught in the shaded area A in Figure 1. The remaining 34%, 1120.48 tonnes, was caught in the shaded area B in the same figure. Area A ranges from 55 20' to 57 00' latitude and from 56 15' to 59 40' longitude. Area B ranges from 51 00' to 52 15' latitude and from 49 [illegible]' to 51 55' longitude.

The total observed catch can be further broken down into unit areas. The total catch of cod in unit area 2He was 2122.81 tonnes, or 64% of the total catch of 3324 tonnes. As well, the catch in unit area 2He was 96% of the total catch of cod in the shaded area A in Figure 1. The total catch of cod in unit area 3Kc was 1120.48 tonnes, the same as in shaded area B in Figure 1. A complete picture of catch by unit area is presented in Figure 2.

It is also worth noting that the entire catch in unit area 3Kc occurred in the spring months of 1983. This was due to heavy ice conditions off the Labrador coast that prevented fishing in unit area 2He. Also, foreign vessels were not given an allocation for cod in area 2J, 3K, and 3L in 1984 or 1985. Therefore, other than these months in 1983, all fishing occurred in, or close to, unit area 2He.

Detailed catches of cod by latitude and longitude for individual trips are presented in Appendix C.

FIGURE 1: TOTAL OBSERVED CATCH OF COD BY POSITION

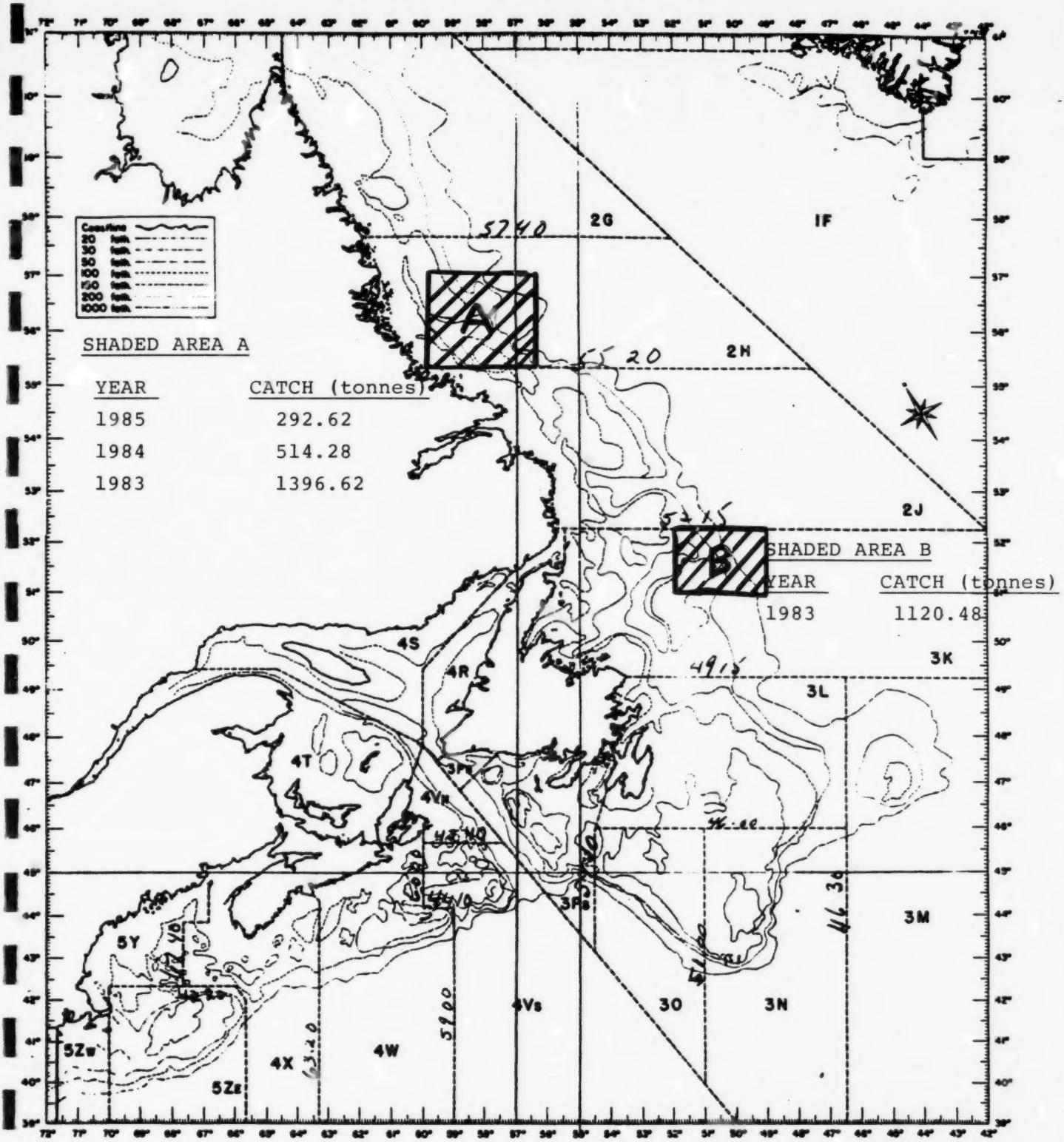
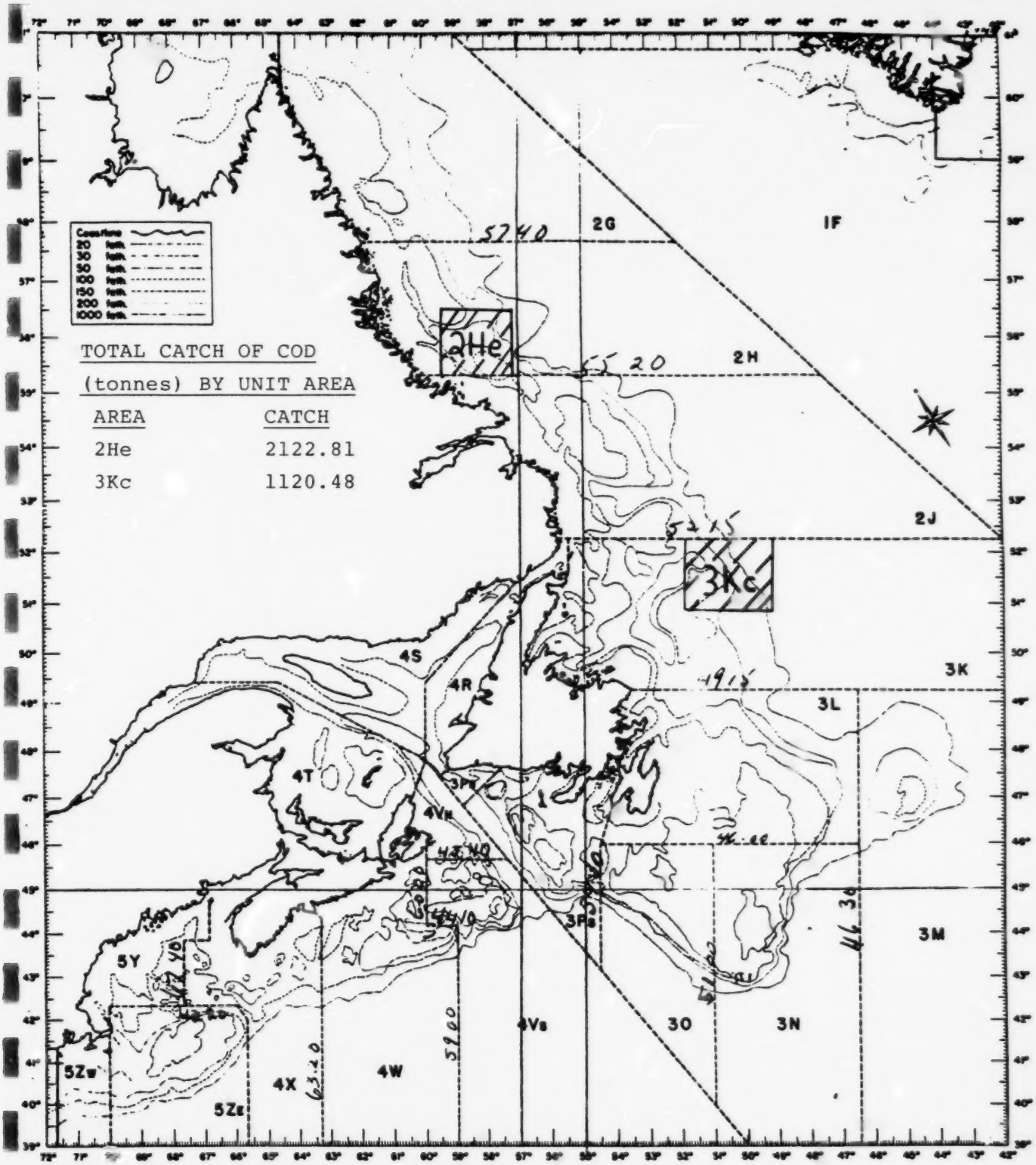


FIGURE 2: TOTAL OBSERVED CATCH (tonnes) OF COD BY UNIT AREA



(iii) EFFECT OF WEATHER CONDITIONS

The weather conditions present on fishing trips did not affect the operation of the vessels. These vessels are equipped to withstand winds up to gale force eight. However, high winds did affect the fishing.

One of the major effects of high winds is the increased time required to shoot and haul the trawl. This increase in time required often results in several hours of lost fishing time. Another effect of high winds was loss of both gear and fish. Gale winds often resulted in broken lines and caused fish to come off the hooks more easily. Thus, winds played a big factor in the choice of a fishing strategy

Strong currents also posed a problem for fishing. This also resulted in increased time to shoot and haul the trawl, as well as, tangling of lines. Tangling of lines resulted in lost gear, lost fish, and loss of extensive fishing time.

Finally, ice conditions affected where the vessels fished. As indicated previously, fishing occurred in unit area 3Kc only during the spring months of 1983 due to heavy ice near the Labrador coast that prevented fishing in unit area 2He.

In conclusion, weather conditions played a definite role in the choice of a fishing strategy.

CATCH RATES AND EFFORT

Daily catch rates have been obtained by taking the total catch of cod per month and dividing by the number of days fished during that month. The total catch of cod per month, as presented in Appendix B, have been used to obtain the daily catch rates. In this section, we will look at the catch rates by month and year of both the Faroese and the Norwegians.

Faroe Islands

In 1985, Faroese vessels fished a total of 67 days and had a catch rate of 7.7 tonnes of cod per day. The highest catch rate of the year occurred during December with 10.43 tonnes per day over a 24 day period. The next best month was November with a catch rate of 7.35 tonnes per day over a 22 day period. In July, there was a total of 7 days fished with a daily yield of 6.5 tonnes. Finally, the lowest rate occurred during August with a 3.99 catch rate of cod over a 14 day period.

In 1984, there was an average 6.14 tonnes of cod caught per day over 65 days. The highest catch rate occurred during December with an average of 9.37 tonnes per day over 20 days. In August, there was a total of 39 fishing days which provided for 4.85 tonnes of cod per day. Finally, September brought the lowest catch rate of 3.72 tonnes per day over a 6 day period.

In 1983, Faroese vessels fished a total of 272 days with an average daily catch of 7.61 tonnes of cod per day. Once again, the best rate occurred during December with a catch rate of 10.09 tonnes per day over a 39 day period. The next best month was April with a daily catch rate of 10.03 tonnes over 48 days. In June, there was a total of 6 days fished with a catch rate of 8.17 tonnes per day. A catch rate of 7.16 tonnes per day occurred during May and November for a 67 and 77 day fishing period respectively. The lowest rate was 3.29 tonnes per day over 35 days in the month of October.

In summary, the best catch rates over three years occurred during the December months in unit area 2He. The next best rates occurred during the spring months of 1983 in unit area 3Kc.

Norway

In 1985, Norwegian vessels fished a total of 58 days with an average catch rate of 3.92 tonnes of cod per day. There were 37 fishing days in November with a daily catch rate of 4.04 tonnes of cod. In December, there were 21 days fished with an average daily catch of 3.73 tonnes.

In 1984, there were a total of 88 days fished with a catch rate of 2.81 tonnes per day. The highest catch rate occurred during December with an average catch of 7.12 tonnes per day over a 17 day period. In October, the average daily catch was 3.12 tonnes over 34 days while in August, it was 2.93 tonnes over 3 days. There were 1.92 tonnes caught per day over 6 days in September. Finally, there were 7 and 2[illegible] days fished in July and June respectively, however, there were no catches of cod.

In 1983, Norwegian longliners fished for 175 days with a daily catch rate of 6.65 tonnes of cod. Once again, the best month was December with a catch rate of 9.15 tonnes per day over a [illegible]4 day period. The next best rates occurred in late winter and early spring. In April, 8.29 tonnes of cod were caught per day over a 42 day period while 8.26 tonnes were caught per day over the same 42 day period in March. In May, 7.52 tonnes were caught per day over a 10 day period. The next best rate was 5.4 tonnes per day over 25 days in November followed by 4.1 tonnes per day over a 7 day period in September. The lowest rate occurred in October with a catch rate of 2.89 tonnes per day over 35 days.

In summary, the best rates for the Norwegians occurred in December in unit area 2He and in the early spring of 1983 in unit area 3Kc.

Daily catch rates and effort by month and by year for both the Faroese and the Norwegians are presented in Appendix D.

LONGLINER FISHING GEAR

The observer trip reports indicated that each foreign vessel set between 130 and 145 lines per day with the most frequent being 140. Each line is about 200 fathoms in length and about 6.5 mm in diameter. The lines were made up of a combination of white fibre and polyproplene which was supposed to increase its effectiveness in strong winds or currents.

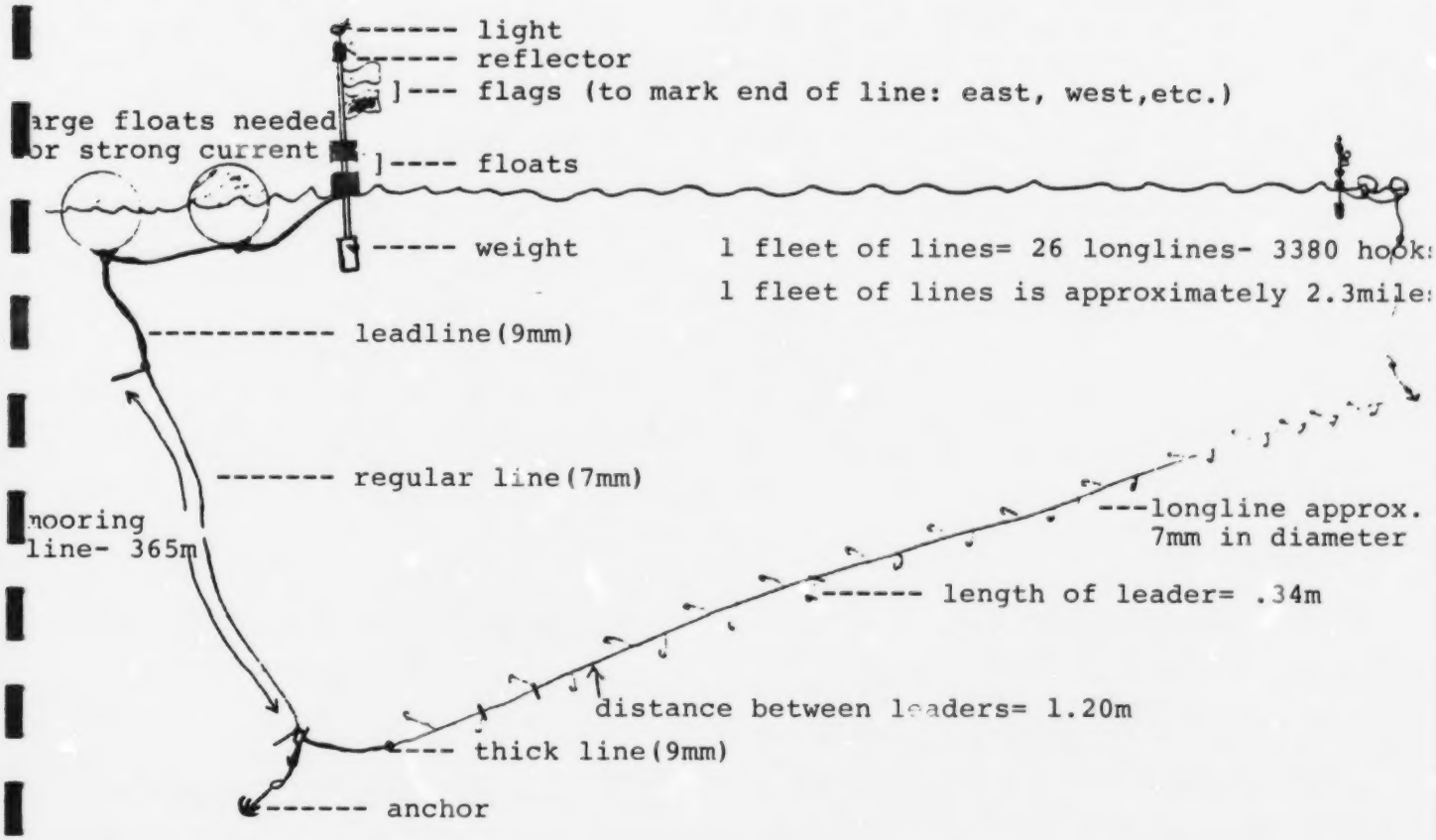
The number of hooks used ranged from between 150 and 250 per line with the most frequent being 200, or 1 every fathom. For 140 lines, the total number of hooks was about 28,000 per day. Each hook is attached to the longline via a leader which is about .5m in length.

The line was kept on the bottom by use of an anchor or grapnel and its position was marked by use of a buoy. The marker buoy was a long stick which had a small battery operated light attached on top. The light made it easier to find the buoy in the dark or in foggy weather. There was an orange float in the middle of the buoy, as well as flags to mark the end of the line. Some buoys had a homing device so that it can be detected on radar.

Finally, most of the vessels baited the lines by hand. It took 7 men approximately 20 hours to repair and bait 145 lines per day. However, two vessels used an automatic baiter to shorten this time, but it was estimated that between 10% and 30% of the hooks go into the water unbaited. Each vessel used between 600 and 700 kilograms of bait per day to bait 140 lines.

A description of the longliner fishing gear is given in Figure 3.

FIGURE 3 : FISHING GEAR



- speed during setting of longline is between 6.5 and 7.0 knots
- speed during hauling of longline is between 1.0 and 1.5 knots
- longline is constructed of various poly twines.

CONCLUSION

Foreign longliner activity in area 2+3KL was relatively stable from 1983 to 1985. From an examination of the fishing time frames, it was found that the best catches occurred in November and December in unit area 2He. Substantial catches of cod were also recorded in the early spring months of 1983 in unit area 3Kc. This was the only time fishing occurred in 3Kc due to heavy ice around unit area 2He in 1983, as well as, the restrictions on fishing in this area in 1984 and 1985.

An examination of the daily catch rates provided the same results. On a per day basis, the best catches occurred in December in 2He and in early spring of 1983 in 3Kc.

APPENDICES

A- Vessel specifications

B- Total Catch of Cod by Month and by Year

C- Catches of Cod by Trip and by Position

D- Catch Rates and Effort by Month and by Year

APPENDIX A : VESSEL SPECIFICATIONS

COUNTRY	VESSEL NAME	SIDE #	GROSS TONNAGE	NET TONNAGE	OVERALL LENGTH	CREW SIZE
	KVIKK	KG-477	256	106	38.74	22
	SIGURFARIDA	KG-378	445	194	45.40	26
F I	HANS ERIK	KG-516	426	194	39.00	27
A S	BORDOYARNES	KG-183	413	188	45.10	26
R L	RASMUS EFFERSOE	TG-9	4[illegible]	[illegible]	46.03	24
O A	BORGARIN	KG-491	242	92	34.10	17
E N	VADASTEINUR	TN-349	311	136	35.90	16
D	FAME	TN-489	818	394	49.47	20
S	BAKUR	TN-468	354	141	47.38	11
	DRANGUR	VA-250	87	45	23.65	9
	JOGVAN	KG-473	268	94	35.00	19
AVERAGES	----------	---------	367.36	161.1	40.00	----------
N						
O	ROLLON	SF-11-V	181	78	31.70	12
R	SKARHEIM	M-8-A	496	210	48.80	21
W	FROYFISK	M-339-HO	181	69	33.80	7
A	KELTIC	SF-211-V	282	120	35.05	11
Y	BERGBJORN	M-29-A	333	133	41.60	17
AVERAGES	----------	---------	294.6	122	38.20	----------

APPENDIX B : TOTAL CATCH OF COD (tonnes) BY MONTH AND YEAR - FAROE ISLANDS

1985		1985 JAN	1985 FEB	1985 MAR	1985 APR	1985 MAY	1985 JUN	1985 JUL	1985 AUG	1985 SEP	1985 OCT	1985 NOV	1985 DEC	1985 TOTALS
A	2G													
R	2H							45.6	55.8			161.7	250.2	513.3
E	2J													
A	3K													
	3L													
TOTALS								45.6	55.8			161.7	250.2	513.3

1984		1984 JAN	1984 FEB	1984 MAR	1984 APR	1984 MAY	1984 JUN	1984 JUL	1984 AUG	1984 SEP	1984 OCT	1984 NOV	1984 DEC	1984 TOTALS
A	2G													
R	2H								189.2	22.3			187.4	398.9
E	2J													
A	3K													
	3L													
TOTALS									189.2	22.3			187.4	398.9

1983		1983 JAN	1983 FEB	1983 MAR	1983 APR	1983 MAY	1983 JUN	1983 JUL	1983 AUG	1983 SEP	1983 OCT	1983 NOV	1983 DEC	1983 TOTALS
A	2G													
R	2H										115.2	551.3	393.7	1060.2
E	2J					53.9								53.9
A	3K				481.4	425.7	49.0							956.1
	3L													
TOTALS					481.4	479.6	49.0				115.2	551.3	393.7	2070.2

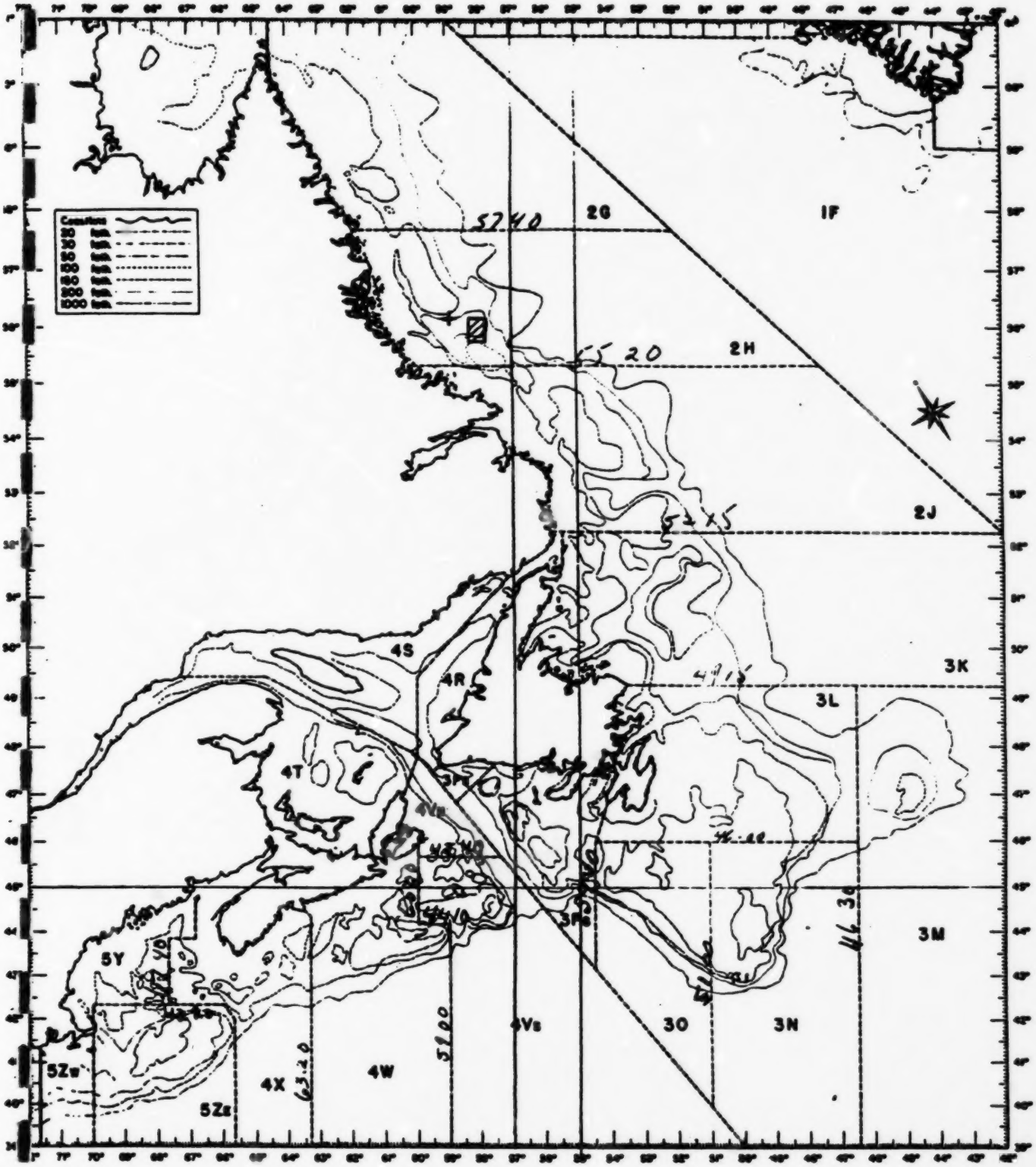
APPENDIX B : TOTAL CATCH OF COD (tonnes) BY MONTH AND YEAR - NORWAY

1985		1985 JAN	1985 FEB	1985 MAR	1985 APR	1985 MAY	1985 JUN	1985 JUL	1985 AUG	1985 SEP	1985 OCT	1985 NOV	1985 DEC	1985 TOTALS
A	2G													
R	2H											149.3	78.3	227.6
E	2J													
A	3K													
	3L													
TOTALS												149.3	78.3	227.6

1984		1984 JAN	1984 FEB	1984 MAR	1984 APR	1984 MAY	1984 JUN	1984 JUL	1984 AUG	1984 SEP	1984 OCT	1984 NOV	1984 DEC	1984 TOTALS
A	2G													
R	2H								8.8	11.5	106.0		121.0	247.3
E	2J													
A	3K													
	3L													
TOTALS									8.8	11.5	106.0		121.0	247.3

1983		1983 JAN	1983 FEB	1983 MAR	1983 APR	1983 MAY	1983 JUN	1983 JUL	1983 AUG	1983 SEP	1983 OCT	1983 NOV	1983 DEC	1983 TOTALS
A	2G													
R	2H									28.7	101.1	135.1	128.2	393.1
E	2J				79.7									79.7
A	3K			346.9	268.3	4.6								619.8
	3L					70.6								70.6
TOTALS				346.9	348.0	75.2				28.7	101.1	135.1	128.2	1163.2

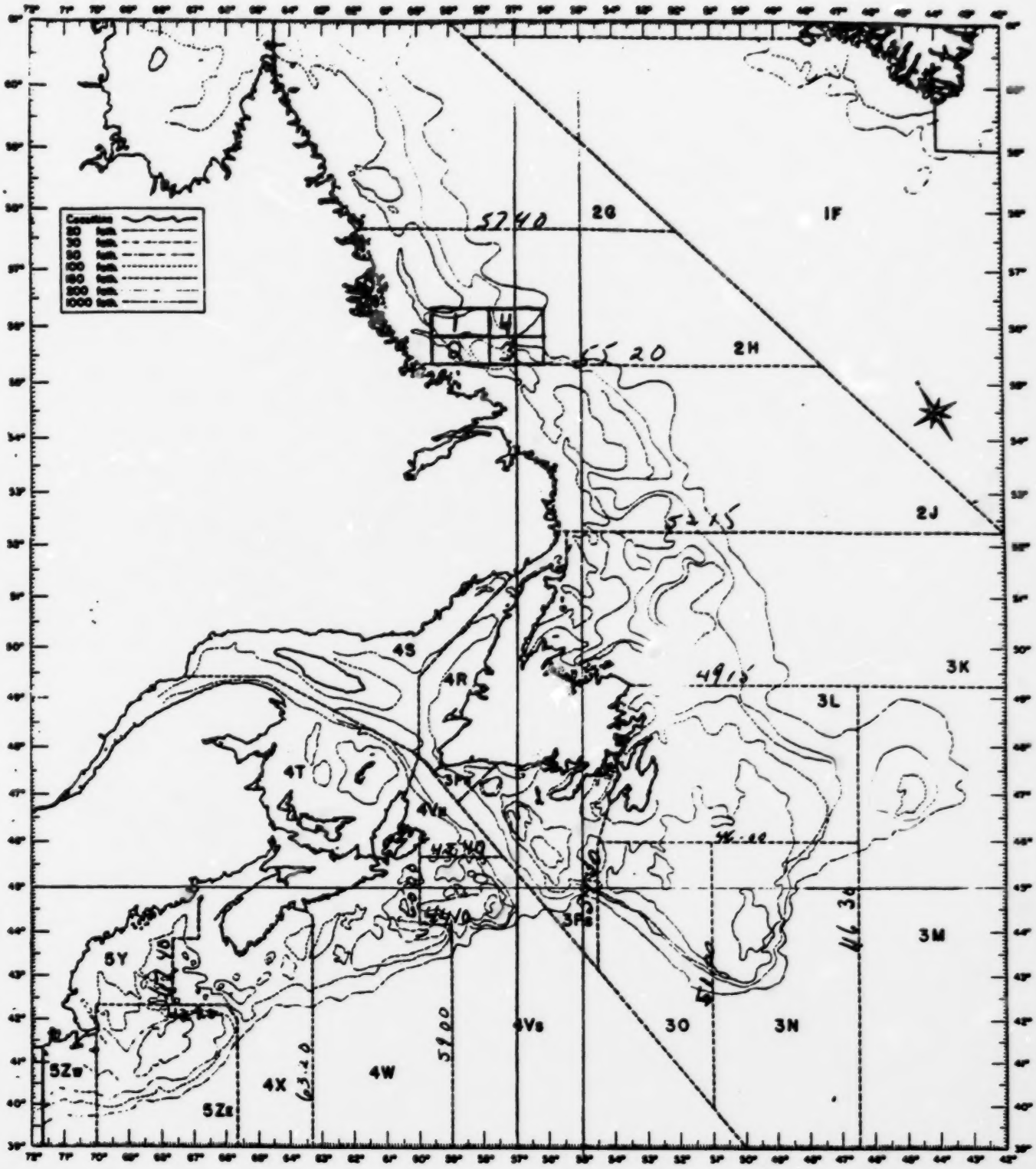
APPENDIX C: CATCHES OF COD BY TRIP AND BY POSITION (see reverse)



CATCHES BY POSITION _ TRIP # 154

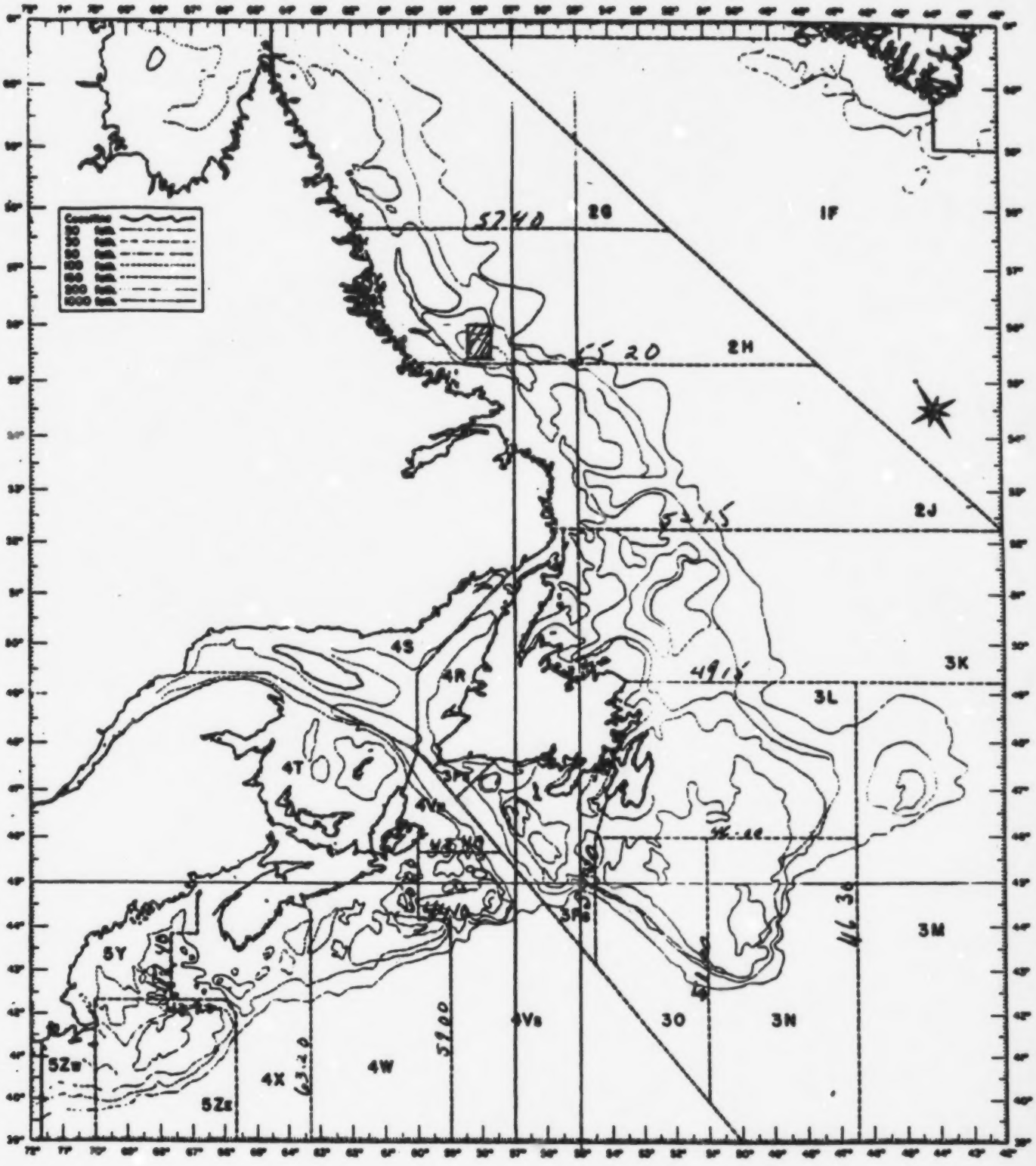
POSITION LAT	POSITION LONG	CATCH (kgs) COD
56°05'	57°51'	4100
56°01'	57°59'	5280
56°04'	57°54'	5275
55°56'	58°05'	4700
55°54'	58°10'	5300
55°56'	58°03'	10,200
55°56'	58°03'	17,900
55°46'	58°16'	7600
55°46'	58°12'	1750
55°51'	58°07'	4850
55°53'	57°58'	1100
55°53'	57°52'	100
55°57'	57°59'	1270
56°12'	57°57'	1010
	TOTAL	70,435
56°11'	58°57'	1500

APPENDIX C: (con't)



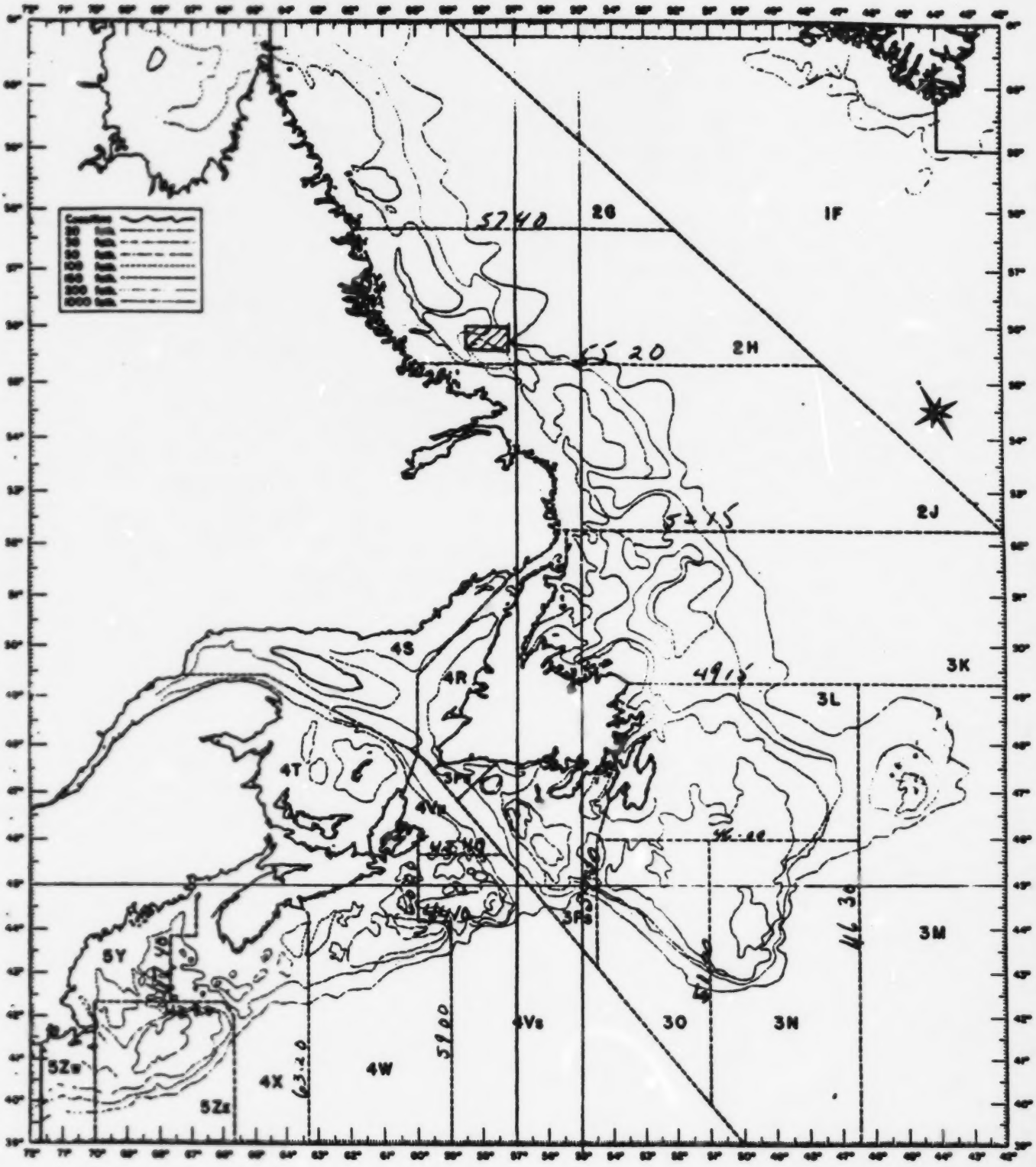
CATCHES BY POSITION - TRIP # 110

	POSITION LAT	POSITION LONG	CATCH (kgs) COD
1	55°51'- 56°20'	57°45' 59°30'	54,075
2	55°20'- 55°50'	57°45'- 59°30'	3055
3	55°20'- 55°50'	56°10'- 57°44'	19,155
4	55°51'- 56°20'	56°10'- 57°44'	17,795


Coastline
20 fath.
30 fath.
50 fath.
100 fath.
150 fath.
200 fath.
1000 fath.
2G
1F
2H
2J
3K
3L
3M
3N
3O
4S
4R
4T
4Vs
4W
4X
5Y
5Zw
5Zz
5740
5520
5215
4915
5900
6320
4630

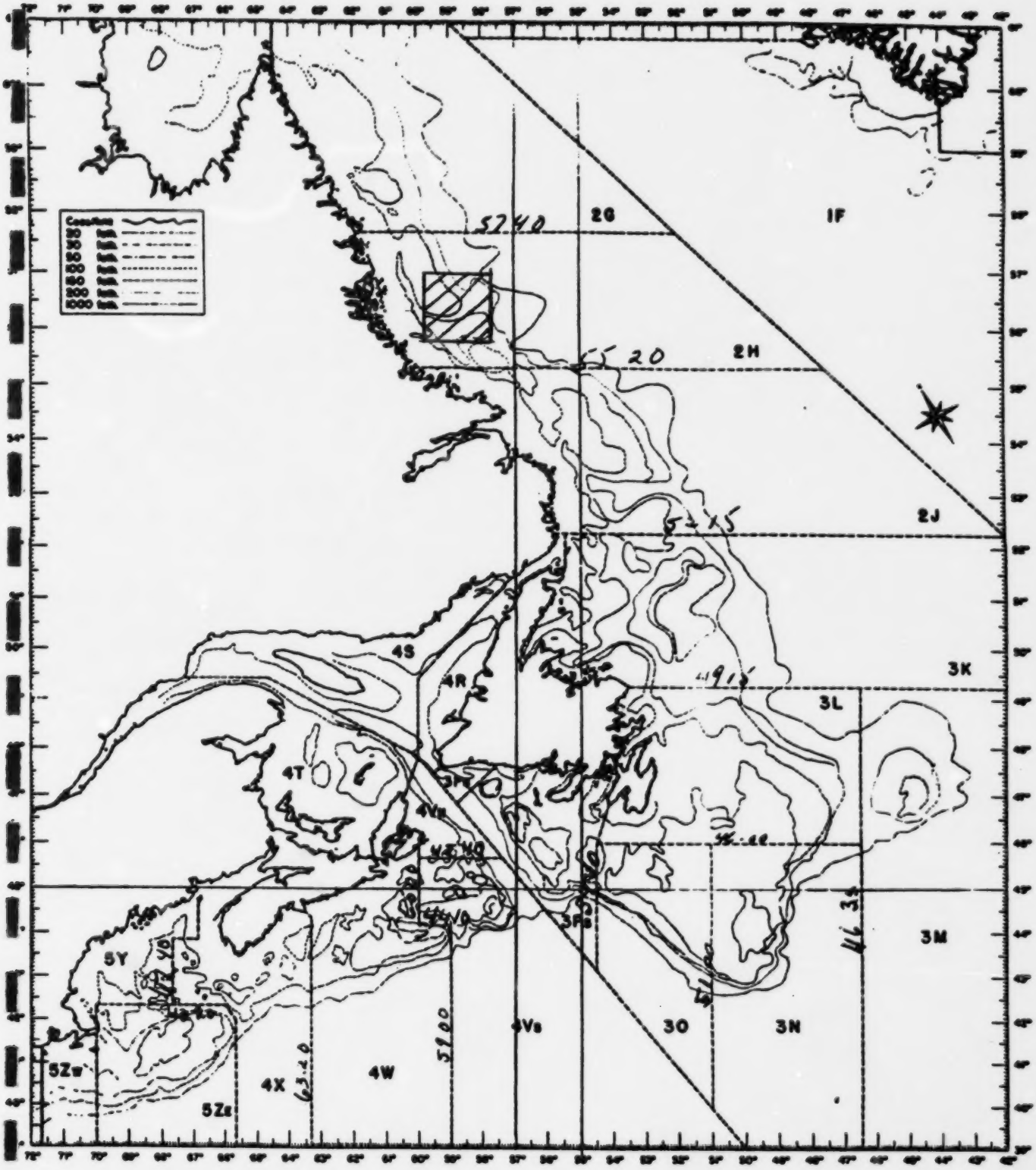
CATCHES BY POSITION - TRIP # 100

POSITION LAT	POSITION LONG	CATCH (kgs) COD
55°58'	57°59'	1500
55 59	57 40	10,000
56 00	57 37	7000
55 51	57 48	6500
55 43	58 14	6000
55 30	58 20	3000
55 26	58 20	6000
55 33	58 24	3400
55 30	58 22	7400
55 49	58 18	5000
55 28	58 17	4500
55 40	58 07	2500
	TOTAL	62,800


2G
1F
2H
2J
3K
3L
3M
3N
3O
4S
4R
4T
4Vs
4W
4X
5Y
5Zw
5Zs
5740
5520
5215
4915
5900
6320

CATCHES BY POSITION - TRIP #'S 184,185,186

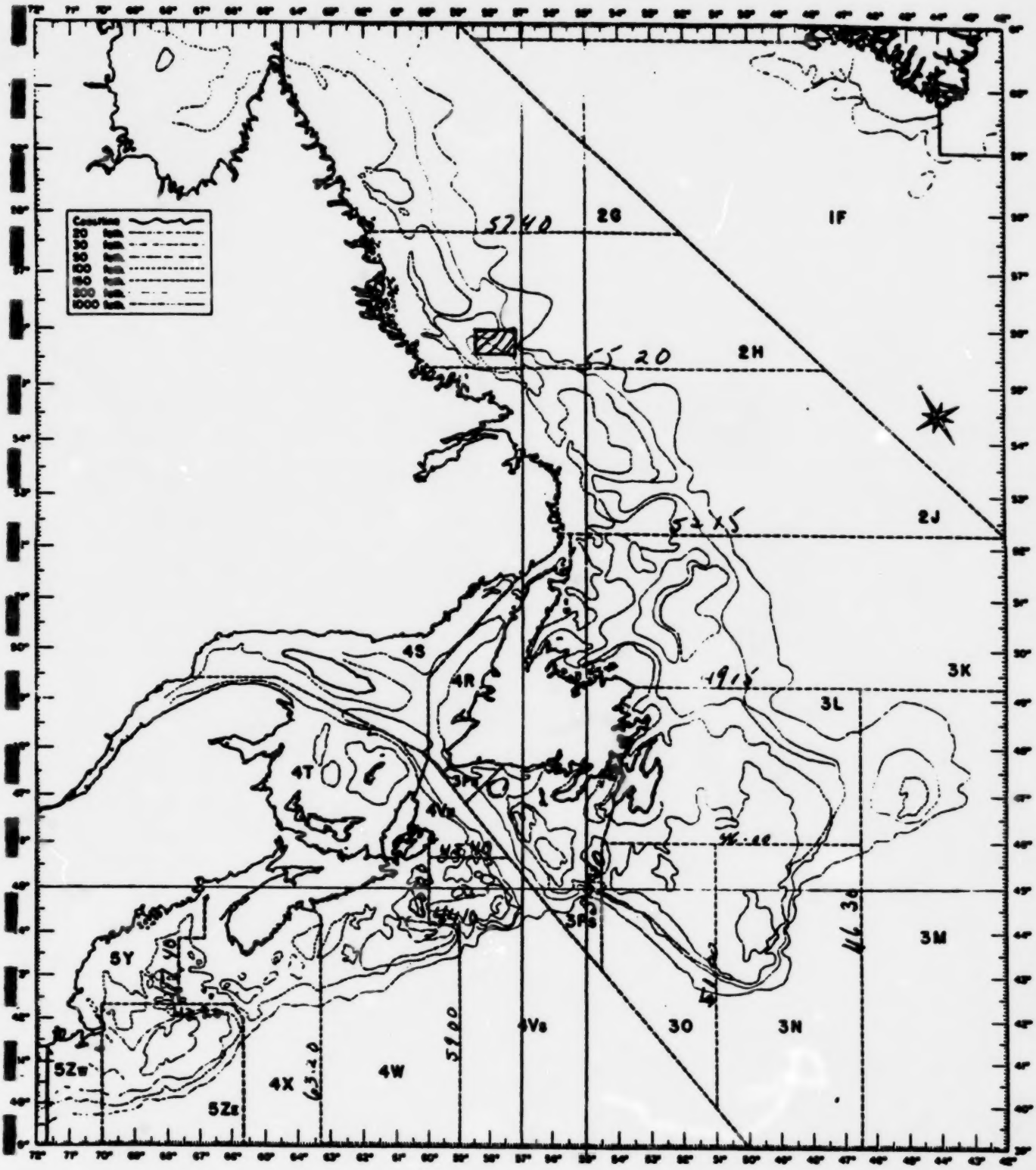
POSITION LAT	POSITION LONG	CATCH (kgs) COD
55°41'	58°15'	10,000
55 45	58 09	11,000
55 45	58 09	11,000
55 45	58 11	11,000
55 46	57 41	11,000
55 50	57 25	14,000
55 39	57 14	14,000
55 46	58 08	2300
55 46	58 08	5200
55 52	57 42	5000
55 49	57 25	6000
55 56	57 30	13,000
55 56	57 35	9000
55 50	57 40	12,000
55 50	57 40	14,400
55 50	57 40	12,000
55 35- 56 00	57 25- 58 30	87,000
	TOTAL	247,900


Coastline
20 fath.
30 fath.
50 fath.
100 fath.
150 fath.
200 fath.
1000 fath.
2G
1F
2H
2J
3K
3L
3M
3N
3O
4S
4R
4T
4Vs
3Fs
5Y
5Zw
5Zs
4X
4W
5740
5520
5215
4915
5100
6320

CATCHES BY POSITION - TRIP # 99

POSITION LAT	POSITION LONG	CATCH (kgs) COD
55°54'	58°18'	3600
55 54	58 16	7300
55 52	57 56	5500
55 53	58 02	8500
55 53	57 48	8100
55 56	57 46	5100
56 09	58 08	4050
56 03	58 05	2550
55 51	58 06	4000
55 56	58 00	4000
55 54	58 02	5600
55 53	57 43	4500
56 21	58 05	2500
-	-	5500
55 45	58 06	3500
55 56	57 38	3500
56 14	58 56	5100
56 11	59 17	4000
56 17	59 24	2600
56 10	59 45	4000
56 15	59 40	4000
56 15	59 35	4500
56 03	59 33	4000
56 50	58 15	3500
	TOTAL	109,500

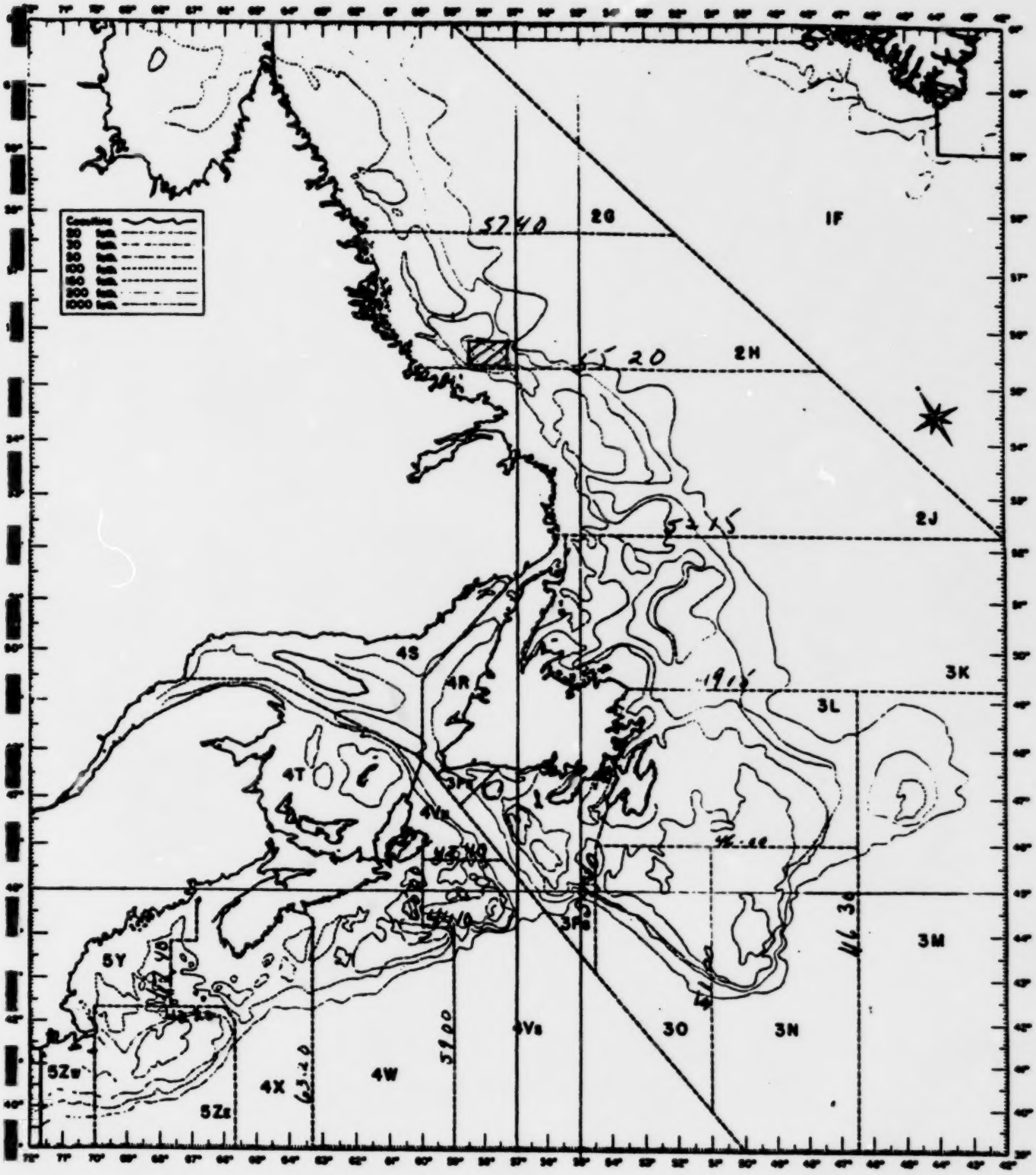
APPENDIX C: (con't)



CATCHES BY POSITION - TRIP # 235

POSITION LAT	POSITION LONG	CATCH (kgs) COD
55°52'	57°31'	2500
55°54'	57°28'	1000
55°58'	57°41'	2000
55°49'	57°39'	2200
55°45'	57°43'	3000
55°47'	57°31'	700
55°47'	57°53'	3000
55°48'	57°52'	2400
55°49'	57°58'	2000
55°47'	57°54'	1700
55°46'	57°55'	3000
55°48'	58°02'	4400
55°48'	57°59'	2400
55°47'	57°52'	3300
55°49'	57°55'	4000
55°51'	57°49'	3500
55°51'	57°49'	2800
55°52'	57°48'	3000
55°53'	57°45'	2000
55°53'	57°43'	1500
55°47'	57°52'	3100
55°45'	57°56'	2200
55°41'	58°20'	2500
55°42'	58°24'	4500
55°43'	58°24'	4300
55°43'	58°25'	3500
55°43'	58°21'	3000
55°43'	58°26'	3500
55°43'	58°23'	4000
55°38'	58°27'	7000
55°37'	55°28'	3000
	TOTAL	91,000

APPENDIX C:(con't)



CATCHES BY POSITION - TRIP # 230

POSITION LAT	POSITION LONG	CATCH (kgs) COD
55°34'	57°18'	635
55°46'	57°30'	3900
55°49'	57°33'	3400
55°46	57°35'	2830
55°48'	57°41'	8175
55°44'	57°43'	6350
55°44'	57°50'	8050
55°48'	57°59'	1510
55°46'	58°01'	4550
55°48'	58°12'	5550
55°45'	58°09'	1620
55°45'	58°05'	3640
55°46'	58°06'	6100
55°46'	58°09'	3650
55°45'	58°12'	8100
55°48'	58°09'	3600
55°50'	58°03'	3600
55°47'	58°14'	7500
55°46'	58°17'	6370
55°43'	58°15'	2730
55°46'	58°17'	6775
55°45'	58°27'	5350
55°42'	58°27'	4440
55°37'	58°27'	6050
55°33'	58°22'	4800
55°24'	58°25'	4200
55°26'	58°15'	3250
55°47'	58°19'	3050
	TOTAL	129,685

APPENDIX D : CATCH RATES (tonnes) AND EFFORT BY MONTH AND YEAR- FAROE ISLANDS

1985	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H							6.5 / 7	3.99/ 14			7.35/ 22	10.43/ 24	7.7/ 67
E 2J													
A 3K													
3L													
TOTALS							6.5 / 7	3.99/ 14			7.35/ 22	10.43/24	7.7/ 67

1984	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H								4.85/ 39	3.72/ 6			9.37 / 20	6.14/ 65
E 2J													
A 3K													
3L													
TOTALS								4.85/ 39	3.72/ 6			9.37 / 20	6.14/ 65

1983	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H										3.29/ 35	7.16/ 77	10.09/ 39	7.02/ 151
E 2J					7.7/ 7								7.7/ 7
A 3K				10.03/ 48	7.1/ 60	8.17/ 6							8.39/ 114
3L													
TOTALS				10.03/ 48	7.16/ 67	8.17/ 6				3.29/ 35	7.16/ 77	10.09/ 39	7.61/ 272

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*                                                       *
* CR/DF= CATCH RATE PER DAY / NUMBER OF DAYS FISHED     *
*                                                       *
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APPENDIX D : CATCH RATES (tonnes) AND EFFORT BY MONTH AND YEAR- NORWAY

1985	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H											4.04/ 37	3.73/ 21	3.92/ 58
E 2J													
A 3K													
3L													
TOTALS											4.04/ 37	3.73/ 21	3.92/ 58

1984	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H						0.0/ 21	0.0/ 7	2.93/ 3	1.92/ 6	3.12/ 34		7.12/ 17	2.81/ 88
E 2J													
A 3K													
3L													
TOTALS						0.0/ 21	0.0/ 7	2.93/ 3	1.92/ 6	3.12/ 34		7.12/ 17	2.81/ 88

1983	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF	CR/DF
A 2G													
R 2H									4.10/ 7	2.89/ 35	5.40/ 25	9.15/ 14	4.85/ 81
E 2J				11.38/ 7									11.38/ 7
A 3K			8.26/42	7.66/ 35	4.55/ 1								7.95/ 78
3L					7.84/ 9								7.84/ 9
TOTALS			8.26/42	8.29/ 42	7.52/ 10				4.10/ 7	2.89/ 35	5.40/ 25	9.15/ 14	6.65/ 175

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* *
* CR/DF= CATCH RATE PER DAY / NUMBER OF DAYS FISHED *
* *
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